

A25/2
Ser: 1061

JUN 2 1958

ORIGINAL

THIRD ENDORSEMENT on H&MS-31 AAR ser 1-58 concerning FJ-3
BuNo. 135907, occurring on 24 April 1958, pilot HANSEN

From: Commanding General, Aircraft, Fleet Marine Force, Atlantic
To: Chief of Naval Operations (Op-57)
Via: (1) Chief, Bureau of Aeronautics (AER-512)
(2) Commander, U. S. Naval Aviation Safety Center

Subj: Headquarters and Maintenance Squadron-31 AAR ser 1-58;
submission of

1. Forwarded, concurring with the conclusion and recommendations contained in the Aircraft Accident Report and with the comments contained in the endorsements thereto. Any one of the probable causes listed in the conclusion is a possibility, however there is an additional one not mentioned in the report, i. e., the possibility that Lieutenant HANSEN encountered a violent slip-stream or jet wash from Lieutenant (b) (6)'s aircraft while attempting to follow through or join up in the dark after a turn reversal. Lieutenant HANSEN was last seen by Lieutenant (b) (6) in a loose, right wing position. The 270 degree turn to the right to lose altitude rather than executing a turn to the left to the runway may not have been anticipated by Lieutenant HANSEN. In any event this would have placed him on the inside of the turn which, from his loose position, may have necessitated shifting to the other side through the slip-stream. If Lieutenant HANSEN were at relatively slow speed in an effort to maintain his inside turn position, encountering a slip-stream might well have caused the sudden dive that was observed.

2. It appears that the search for the aircraft wreckage was well conducted and is a good example of the persistence that is necessary for all personnel who are engaged in Aviation Safety activities. The Commanding Officer, AIRASRON THREE ZERO, was very cooperative in deploying two S2F aircraft equipped with magnetic detection gear to join in the search. Since other equipment unknown to this command, may be available to assist in locating submerged aircraft wreckage.

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I strongly concur in recommendation 4. I again urge use of dye
markers in all aircraft to assist in locating them.

M. L. Dawson

M. L. DAWSON

Copies to:

CMC (CODE AAP)
BUAER (AER-512)
COMNAVIAIRLANT
CG MAG-31 (Rein)
NAVAVNSAFCEN (2)
COMC&BE
COMNAF-5
BAR NORTH AMERICAN
BAR WRIGHT AERONAUTICAL CORPORATION
CO H&MS-31
CO AIRASRON-30

ORIGINAL

02

SPECIAL HANDLING REQUIRED
IN ACCORDANCE WITH PART VI
OPNAV INST 3750.6B

• ORIGINAL •

71:rbv
22 May 1958

SECOND ENDORSEMENT on H&MS-31 AAR 1-58 Concerning FJ-3 BuNo 135907
Occurring on 24 April 1958, Pilot HANSEN

From: Commanding General, Marine Aircraft Group 31 (Rein)
To: Chief of Naval Operations (OP 57)
Via: (1) Commanding General, Aircraft, Fleet Marine Force, Atlantic
 (2) Chief, Bureau of Aeronautics (Aer 512)
 (3) Director, U.S. Naval Aviation Safety Center

Subj: Headquarters and Maintenance Squadron 31 AAR 1-58; submission of

1. Readdressed and forwarded with the following comment:

- a. It is felt by this Command that it is unnecessary for the Commanding General, MCAS, Cherry Point to endorse this AAR. Since ~~the~~ rescue facilities and the assistance rendered the AAR Board are considered outstanding.
- b. The accident cause remains undetermined.
- c. Strongly concur with the fourth recommendation of the AAR Board.

J. R. Bailey
J. R. BAILEY
Acting

Distribution:

CMC (Code AAF)	(1)
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ComNav 5	(1)
B&R North American	(1)
B&R Wright Aeronautical	
Corporation	(1)
CO, H&MS-31	(2)

03

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PART VII OPNAV INSTRUCTION 3750.6

• ORIGINAL •

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FF14/HMMS-31
HGS/HGS/jmc
A25
9 May 1953

FIRST ENDORSEMENT on Headquarters and Maintenance Squadron 31
AAR Serial 1-58 concerning Bureau Number
135907 accident occurring 24 April 1953,
Pilot First Lieutenant HANSEN

From: Commanding Officer, Headquarters and Maintenance Squadron 31
To: Chief of Naval Operations (OP-57)
Via: (1) Commanding General, Marine Aircraft Group 31 (Reinforced)
(2) Commanding General, Marine Corps Air Station, Cherry
Point, North Carolina
(3) Commanding General, Aircraft, Fleet Marine Force, Atlantic
(4) Chief, Bureau of Aeronautics
(5) Director, U. S. Naval Aviation Safety Center

Subj: Headquarters and Maintenance Squadron 31 AAR Serial 1-58;
submission of

1. Forwarded.
2. The conclusion that the primary cause is undetermined is concurred with. The probable causes are concurred with. While vertigo could be the most probable cause the abrupt maneuver (dive) from straight and level flight while approaching the field is not one associated with vertigo or disorientation.
3. Comments on the recommendations are:
 - a. First recommendation. Concur. Flight leaders and wingmen by understanding causes and effects of vertigo can help alleviate the situation by taking advantage of visual references, correct wing position and communications as to intentions. In addition aviators have to maintain proficiency in instruments either by actual or simulated instrument flying and the use of link or operational flight trainers.
 - b. Second recommendation. Strongly concur. Knowing the emergency and ejection procedures thoroughly are fundamental prerequisites to flying our present aircraft.
 - c. Third recommendation. Concur. Swept-wing aircraft demand pilots having detailed knowledge of their flight characteristics.
 - d. Fourth recommendation. Concur. Having this information available to investigators would insure that all means for recovery were undertaken.

"SPECIAL HANDLING REQUIRED IN ACCORDANCE
WITH PART VII OPNAV INSTRUCTION 3750.6B"

ORIGINAL

04

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Subj: Headquarters and Maintenance Squadron 31 AIR Serial 1-58;
submission of

4. First Lieutenant HANSEN was considered an above average pilot for his rank and experience. There is no record of previous accidents or flight violations. He had a degree in electrical engineering and a GCT of 142, which indicates he had the ability and aptitude for knowing and understanding aircraft performance and characteristics. He joined a tactical squadron directly from flight school and had a nine month tour before joining this squadron, awaiting permanent change of station orders. The squadron was completing Phase II Training. The hours he flew in the tactical squadron was average in comparison to other pilots.

5. This squadron will continue to stress the requirements as noted in the first three recommendations and this endorsement. Aviators flying this squadrons aircraft are usually staff officers with experience and have had a previous tour with a tactical squadron. However close and constant supervision is maintained on their flying and in their knowing the emergency procedures and flight characteristics of the aircraft they fly.

6. It is recommended that the Naval Aviation Safety Center promulgate the information recommended in the fourth recommendation.

H.G. Schleendering
H. G. SCHLEENDERING

Copies to:
CMC (Code AAP) (1)
Bureau of Aeronautics (1)
(AER 512)
COMNAVAIRANT (1)
CG, AIRFMPLANT (1)
CG, MAG-31(REIN) (1)
NAVAVNSAFcen (2)
CG, MCAS, CHERRY POINT (1)
COMNAB FIVE (1)
BAR North American (1)
Aircraft Corporation
BAR Wright Aeronautical (1)
Division
CO, VMF 333 (1)
File (2)

05

"SPECIAL HANDLING REQUIRED IN ACCORDANCE
WITH PART VII OPNAV INSTRUCTION 3750.6B"

ORIGINAL

PART I - GENERAL		DATE OF ACCIDENT	TIME	3. AIR SERIAL NO.
AIRCRAFT ACCIDENT BOARD CONVENED BY		24 April 1958	2102R	1-58
H&MS-31				
TO:	5. ENCLOSURES: (1) 1stLt (b) (6) a Statement			
CHIEF OF NAVAL OPERATIONS (Op-57)	(2) Witness Statements (10)			
VIA: (1) CG, MAG-31 (Rein)	(3) Photographs (2)			
(2) CG, MCAS, Cherry Point, N.C.	(4)			
(3) CG, Air Materiel	(5)			
(4) Chief, Builer (AER 512)	(6)			
(5)	(7)			
(6)	(8)			
(LAST) DIRECTOR, U. S. NAV. AV. SAFETY CENTER		(9)		
REPORTING CUSTODIAN (if different than item number 1)		B. ACTIVITY OPERATING AIRCRAFT (if different than item 7)		
Seme		Seme		
IND OF FLT.: 10. TIME OF DAY	11. LOCATION OF ACCIDENT			12. ELEV. ABOVE SEA LEVEL
3A1 <input type="checkbox"/> DAWN <input type="checkbox"/> DAY <input type="checkbox"/> DUSK <input checked="" type="checkbox"/> NIGHT	5 Miles NE MCAS CherPt N.C. (Neuse River)			Sea Level
PLACE OF LAST TAKE-OFF	14. CLEARED			FROM Syracuse, N.Y. TO Cherry Pt. N.C.
Hancock Airport, Syracuse, New York				

TYPE CLEARANCE: <input checked="" type="checkbox"/> IFR <input type="checkbox"/> VFR <input type="checkbox"/> LOCAL <input type="checkbox"/> OPERATIONAL <input type="checkbox"/> AIRWAYS <input type="checkbox"/> DIRECT <input type="checkbox"/> OTHER, Specify _____			
TIME IN FLT. 17. TYPE ACCIDENT	18. PHASE OF FLIGHT		
1-40 B (5. Collision-Water-Undetermined)	(6) Let Down		
19. MODEL	20. SERIAL NO. 21. DAMAGE TO AIRCRAFT		
FJ-3	135907	<input checked="" type="checkbox"/> A. <input type="checkbox"/> B. <input type="checkbox"/> C. <input type="checkbox"/> D.	22. DOL. COST 23. AIRFIELD/ATL/EN. A/C ST. 15,000, \$384,000 250-300 (Est.)
25. LIST MODEL, SER. NRS. REPORTING CUSTODIAN AND DAMAGE CLASSIFICATION OF ANY OTHER A/C INVOLVED /complete separate OPNAV Form 3750-1 for each A/C/			

1. PERSONNEL PILOT (PERSON AT CONTROLS AT TIME OF ACCIDENT)	2. NAME (last, first and middle initial)	3. RANK, RATE	4. FILE NO.	5. DESIG. NATOR	6. DATE DESIG. NATED	7. DATE OF BIRTH	8. AGO
	HANSEN, BILLY M.	1stLt	(b) (6)	7333	3-8-57	(b) (6)	23

CO-PILOT	9. OPERATIONAL FLT. TRAINER AVAILABLE USEOF	10. UNIT TO WHICH ATTACHED			11. TYPE INSTRUMENT CARD		
PILOT	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NO	H&MS-31, MAG-31 (Rein)			<input checked="" type="checkbox"/> STANDARD	<input type="checkbox"/> SPECIAL	
OPT & PRT				<input type="checkbox"/> STANDARD	<input type="checkbox"/> SPECIAL		

ITEM	PILOT	CO-PILOT	STG. PNT	ITEM	PILOT	CO-PILOT	STG. PNT
ALL MODELS	497.8	17.8		CV LANDINGS DAY/NIGHT			6
ALL MODELS IN LAST 12 MOS.	217.2	17.8		FCLP LANDINGS DAY/NIGHT			65
ALL MODELS IN LAST 3 MOS.	82.9	1.7		INSTRUMENT HOURS, LAST 3 MONTHS			9.1
ALL SERIES THIS MODEL	158.1			NIGHT HOURS, LAST 3 MOS.			2.5
ALL SERIES THIS MODEL, LAST 12 MONTHS	158.1			(jet accidents only) TOTAL JET PILOT HOURS			256.3
ALL SERIES THIS MODEL, LAST 3 MONTHS	81.2			DATE LAST FLIGHT, ALL SERIES THIS MODEL DURATION LAST FLIGHT, ALL SERIES THIS MODEL			24 April 1958

NAME (last, first and middle initial)	RANK	FILE NO.	SERVICE NO.	ORG. TO WHICH ATTACHED	INACT. PERIOD	BILLET FROM
HANSEN, BILLY M.	1stLt	(b) (6)		H&MS-31 MAG-31 (Rein)		A Pilot Cookit
1.						06
2.						
3.						
4.						
5.						

SI (If additional space is necessary, attach additional sheet(s))
WITH PART VII OPNAV INSTRUCTION 3750-1

AIRCRAFT ACCIDENT REPORT

1. CEILING	2. VISIBILITY	3. WIND DIRECTION AND VELOCITY	4. TEMPER- ATURE	OUTSIDE RUNWAY	5. DEW POINT	6. ALTIMETER SETTINGS
Cleer	8	S-4 Kts	AIR 68°F	60°F	60°F	29.92

OTHER WEATHER CONDITIONS (winds aloft, icing levels, state of sea, etc., if pertinent to accident)

Heze Aloft

ITEM	P/S	ITEM	P/S	ITEM	P/S
PILOT ERROR		LANDING SIGNAL OFFICER ERROR		MATERIAL FAILURE OR MALFUNCTION	
CREW ERROR		OTHER PERSONNEL ERROR, Specify		MATERIAL INADEQUACY	
SUPERVISORY PERSONNEL ERROR		ADMINISTRATIVE ERROR		ROLLING AND PITCHING DECK/ROUGH SEAS	
MAINTENANCE PERSONNEL ERROR		AIRPORT OR CARRIER FACILITIES		UNDETERMINED	X
SERVICING PERSONNEL ERROR		WEATHER		OTHER, Specify	
FOR ACCIDENTS ABOARD DEPLOYED CARRIERS (Complete following Section on Pilot)					
DATE DEPLOYED		2. DAY-HOURS/LANDINGS LOGGED SINCE DEPLOYED		3. DAY-HOURS/LANDINGS LOGGED LAST 30 DAYS	
NA		NA		NA	
INSTRUMENT HRS. LOGGED SINCE DEPLOYMENT		5. NIGHT-HOURS/LANDINGS LOGGED SINCE DEPLOYED		6. NIGHT-HOURS/LANDINGS LOGGED LAST 30 DAYS	
NA		NA		NA	

PART II - MAINTENANCE MATERIAL AND FACILITIES DATA

DATE OF MANUFACTURE	SERVICE TOUR	MONTHS IN THIS TOUR	TOTAL NO. OF OVER- HAULS	FLIGHT HRS. SINCE LAST OVERHAUL	FLIGHT HRS. SINCE ACCEP- TANCE	TYPE CHECK LAST PERFORMED	FLIGHT HRS. SINCE LAST CHECK	NO. OF DAYS SINCE LAST CHECK
3-12-55	1	23	0	375.7	375.7	Major	14.6	15
	ENGINE MODEL	SERIAL NO. OF ENGINE						
		W						
1-17-55	J-65W-4B	610190	1	19.0	138.8	Major	14.6	15

a. DID FIRE OCCUR: BEFORE ACCIDENT AFTER ACCIDENT DID NOT OCCUR b. DID EXPLOSION OCCUR IN FLIGHT? YES NO

c. CHECK IF APPLICABLE d. HAS DIR BEEN REQUESTED?

 AMP FUR SERIAL YES NO

e. FAILED COMPONENTS INVOLVED

CHECK BELOW ITEMS PRESENT IN THIS ACCIDENT

- | | | |
|--|---|--|
| a. <input type="checkbox"/> AIRCRAFT DESIGN | d. <input checked="" type="checkbox"/> UNDETERMINED | g. <input type="checkbox"/> SURFACE FACILITIES |
| b. <input type="checkbox"/> AIRCRAFT EQUIPMENT | e. <input type="checkbox"/> TECHNICAL INSTRUCTION | h. <input type="checkbox"/> HUMAN ENGINEERING
(e.g. cockpit configurations) |
| c. <input type="checkbox"/> MAINTENANCE | f. <input type="checkbox"/> OTHER, Specify | |

A. ALTITUDE AT MALFUNCTION	B. AIR SPEED (M/S)	C. OPERATING TEMPERATURE	D. WEIGHT OF AIRCRAFT	E. C.G.(%MAC)	F. KIND OF FUEL	G. FUEL PRESSURE
1500ft	250-300kts	Normal	15,000	23.8	JP-4	

H. EVIDENCE OF FUEL CONTAMINATION

I. CAUSE OF ENGINE FAILURE OR FLAMEOUT

07

J. FUEL CONTROL REGULATOR/CARBURETOR (List Stock and Ser. nos., give time since new or overhauled)
R-85 BPD 1905443/H 508021/206,2

K. EXTERNAL STORE, ABOARD A/C
2 Type I 200 Gal Fuel Tank

(if additional space is necessary, attach additional sheet(s))

"SPECIAL HANDLING REQUIRED IN ACCORDANCE
WITH PART VII OPNAV INSTRUCTION 3750.6B"

AIRCRAFT ACCIDENT REPORT

PART II. MAINTENANCE, MATERIAL AND FACILITIES DATA (Cont'd.)

a. <input type="checkbox"/> CLEARANCE AUTHORITY	b. <input type="checkbox"/> FLIGHT PLANNING INFORMATION SOURCE	c. <input type="checkbox"/> LANDING AIDS (GCA, CCA, ILS, etc.)	d. <input type="checkbox"/> TRAFFIC CONTROL TOWER (Field or Ship)	e. <input type="checkbox"/> APPROACH AND ENROUTE AIDS TO NAVIGATION	f. <input type="checkbox"/> RUNWAY WATCH	g. <input type="checkbox"/> LANDING SIGNAL OFFICER	w. <input type="checkbox"/> OTHER, Specify.....	h. <input type="checkbox"/> RUNWAY	i. <input type="checkbox"/> WATER LANDING AREA	j. <input type="checkbox"/> APPROACH ZONE	k. <input type="checkbox"/> END ZONE	l. <input type="checkbox"/> SHOULDER	m. <input type="checkbox"/> TAXIWAY	n. <input type="checkbox"/> PARKING AREA	o. <input type="checkbox"/> GEAR (Runway)	p. <input type="checkbox"/> AIRCRAFT SERVICING, HANDLING & DIRECTING (Field or Ship)	q. <input checked="" type="checkbox"/> CRASH AND RESCUE	r. <input checked="" type="checkbox"/> SEARCH AND RESCUE	s. <input type="checkbox"/> CATAPOULT	t. <input type="checkbox"/> ARRESTING GEAR (Carrier)	u. <input type="checkbox"/> BARRIER OR BARRICADE (Field or Ship)	v. <input type="checkbox"/> FLIGHT DECK			
eFFECT IN ACCIDENT IN THE FIELD OF:								C. CATAPOULT				B. PRESSURE SETTINGS				c. WIND OVER DECK				d. RELATIVE HEADWIND				e. APPROACH SPEED (SPN-12 READING)	
d. EQUIPMENT INVOLVED: <input type="checkbox"/> CATAPOULT <input type="checkbox"/> ARRESTING GEAR				f. MARK NUMBER: g. MODEL NO.: h. LOCATION ON SHIP				i. LAUNCHING BRIDLE AND CONFIGURATION USED																	

J. CATAPOULT/ARRESTING GEAR BULLETIN OR NOMOGRAMS USED

K. THIS PORTION SHALL BE COMPLETED WHENEVER (1) A MAJOR AIRCRAFT ACCIDENT INVOLVES ARRESTING GEAR, BARRIER AND/OR BARRICADE EQUIPMENT, OR (2) AN AIRCRAFT ACCIDENT INVOLVES MALFUNCTIONING OF ARRESTING GEAR, BARRIER AND/OR BARRICADE EQUIPMENT. MINOR ACCIDENTS OR ROUTINE DAMAGE TO CABLES, WELDINGS AND OTHER EXPENDABLE COMPONENTS NEED NOT BE REPORTED.

ENGAGED	DECK RAM RUNOUT (FT.)	RAM TRAVEL (IN)	CONSTANT PRESSURE DOME (P.S.I.)	CONTROL VALVE SETTINGS	CONSTANT RUNOUT (T. LBS.)	ACCUMULATOR PRESSURE (PSI)	COMMENTS (for cable failure specify number of landings and months in service)
DECK PENDANT							
DECK PENDANT							
BARRIER							
BARRIER							
BARRICADE							

T. SEC'T ITEM

PART III - REMARKS (continue on separate pages if necessary)

No damage to private or government property.

DISTRIBUTION:

GMC (Code 1P) (1)	CG, MC/S Cherry Point (1)
BUAFR (AFR 512) (1)	COMNAB FIVE (1)
COMMVAIRLNT (1)	BAR North American (1)
CG, AIRFMFLNT (1)	BAR Wright Aeroneutical
CG, MAG-31 (Rein) (1)	Division (1)
NVAVNS/FCEN (2)	CO, VNF-333 (1)
	File (2)

(b) (6)

08

PART V THE ACCIDENT

First Lieutenant Billy HANSEN, (HAMS-31) and First Lieutenant (b) (6) (b) (6) were granted a two night RON cross country flight in FJ-3 aircraft from MCAS Miami to Syracuse, New York, Bryan, Texas and return. The route was changed because of weather prior to departure to proceed to Bryan, Texas first, then via the planned route. The flight of two aircraft changed leads at various intervals to gain as much experience as possible, and to fulfill yearly proficiency requirements. A refueling stop was made at NAS Pensacola, with RON at Bryan, Texas, on 22 April 1958. On 23 April 1958 a refueling stop was made at Denelly Field Montgomery, Alabama, and RON at Fort Columbus, Columbus, Ohio. The landing at Columbus was a night landing. The RON at Columbus was required because of servicing and maintenance delays at Montgomery. On 24 April the flight proceeded to Syracuse, N.Y. with a plan that included departing Syracuse at approximately 1500, refueling at MCAS Cherry Point then flying a night leg into MCAS Miami. At about 1530 the flight departed Syracuse enroute to Cherry Point. After being airborne for approximately ten minutes Lt. (b) (6) radio stopped operating so the flight, with HANSEN leading, returned to Syracuse for necessary radio repairs. At 1922 the flight, with HANSEN leading, again departed Syracuse with (b) (6) having a receiver and no transmitter. The flight was filed IFR, VFR on top, with destination weather forecast to be clear and eight miles visibility. The flight cruised 42,000' direct Phillipsburg, direct Gordonsville, direct Cherry Point. The flight estimated Cherry Point at 2040R. After passing Gordonsville, the flight made an enroute VFR descent from 42,000 to 20,000 feet. The lead of the flight was changed so that HANSEN with the radio transmitter could follow (b) (6) and advise Cherry Point tower of WILDE's position in the pattern. (b) (6) was also more familiar with the Cherry Point traffic pattern. The flight was prebriefed for this lead change. The flight, approaching from the NW, continued to descend west and south of the field. South of the field (See Enclosure (3-1)) at about 8,000 feet, HANSEN called Cherry Point tower and requested the duty runway. It was given as RW-23. The flight continued toward the east, continuing the descent, so as to enter the initial at 1500 feet over Minnesota Beach. The flight was now at approximately 3,000 feet near the entry point which (b) (6) decided was too high an altitude to execute a proper entry. He elected to continue straight and level for about 15 seconds to offset himself from the entry point, and make a 270° turn to the right to lose the excess altitude for a proper entry into initial. It was during this level flight period that (b) (6) last observed HANSEN on his wing. (b) (6) rolled out of the 270° turn and waited for HANSEN to rejoin for the break and landing. About one-third of the way into the break position and not having his wingmen in visual contact (b) (6) decided to make a 360° right turn to enable HANSEN to join up. When HANSEN did not rejoin the flight (b) (6) came over the field and landed, assuming that HANSEN would fly his own pattern and land. When (b) (6) reported to operations to check if the tower had radio contact with HANSEN he was informed that operations had received reports of a possible crash. The possible crash was HANSEN's aircraft.

PART VI DAMAGE TO THE AIRCRAFT

The aircraft crashed into the Neuse River approximately five miles northeast of MCAS, Cherry Point. The aircraft is presumed to have completely disintegrated into small pieces upon impact as the only parts of

09

"SPECIAL HANDLING REQUIRED IN ACCORDANCE
WITH PART VII OPNAV INSTRUCTION 3730.5B"

Part VI Cont'd

the aircraft that were recovered were parts that floated to the surface. They included a left leading edge float valve identified by part number as FJ-3, part of the three way float valve from the forward fuselage tank, ejection seat knee pads and an FJ-3 ejection seat head rest. Conclusive evidence that the aircraft crashed into the water was obtained by recovery of parts of a civilian suit coat with the pilots name on the collar lining. This was carried in the nose radar compartment. Recovered also, was an FJ-3 Handbook of Maintenance Instructions that HANSEN had carried on the flight in the ammo cans located in the forward fuselage area. Evidence that positively placed the ejection seat in the Neuse River, whether still in the aircraft or fired prior to impact, was parts of human remains; East and West Jet letdown charts; a flight suit leg pocket complete with maps and emergency cards from VMF-251, the Squadron that HANSEN was attached to just previous to his transfer to H&MS-31, and a cross country packet containing gas chits signed by HANSEN and (b) (6). The cross country packet is either carried in the cockpit or in the ammo cans.

The aircraft is presumed to have struck the water at a high angle of impact with a minimum amount of detonation upon impact. Witness statements observe the aircraft nosing over from straight and level flight and entering a high angle dive before impact. These witnesses were tower operators, one pilot flying in close proximity and a mobile runway control operator, all considered reliable and competent witnesses. Three witnesses from an area approximately 1,000 feet NW of the tower observed the aircraft making a rapid pull up then spinning down in a high angle dive. (These witnesses were considered not as reliable as the previously mentioned witnesses, however their testimony was not rebutted or discounted.) The Neuse River, in the area where the aircraft crashed, is a maximum depth of 25 feet.

PART VII THE INVESTIGATION

First Lieutenant HANSEN completed the Naval Air Advanced Training Syllabus in the F9F-5 and was designated a Naval Aviator on 8 March 1957. He was assigned MOS 7333 14 June 1957. He joined VMF-251 in July 1957. He first flew the FJ-3 on 16 August 1957.

HANSEN's total hours were 515.6, 158.1 hours in the FJ-3, 256.3 jet hours, 2.5 night hours and 9.1 instrument hours were flown in the last three months. HANSEN flew FJ-3 aircraft in VMF-251 until 14 April 1958 at which time he was transferred to H&MS-31. He continued to fly FJ-3 aircraft in this Squadron until the accident occurred. He was designated a division leader 27 December 1957 and a flight leader 18 April 1958. HANSEN completed ejection familiarization May 1957, low pressure chamber July 1957, dillbert dunker October 1957, swimming November 1957 and a dry ejection run in the FJ-3 within four months before being transferred from VMF-251. He was current in "All Pilot Meetings" minutes, lectures, "Read and Initial" of publications pertinent to safety, emergency and engineering procedures for the FJ-3 in VMF-251 and this Squadron. 10

HANSEN was properly cleared and considered qualified for the cross country flight. This cross country was a two night RON flight that included Cherry Point, Hancock, Port Columbus, Bryan, Forest Sherman and return, with RON's

"SPECIAL HANDLING REQUIRED IN ACCORDANCE

WITH PART VII OPNAV INSTRUCTION 3750.6B

PART VII Cont'd

et Bryan AFB, Texas and Hancock ANG, New York. Lt. HANSEN was designated flight leader of the flight. The flight was scheduled to depart 21 April 1958, however, was delayed until 22 April 1958 by MAG-31 approval because of weather. The route was changed, also because of weather, to go to Bryan AFB first, with a reversal route. This change was also approved. The flight, on 22 April, with HANSEN in BuNo 135907 and (b) (6) in BuNo 135866, proceeded to Sherman Field, Pensacola, Florida, (HANSEN, 1.8 hours) refueled there to Bryan AFB, Texas (HANSEN 1.7 hours, 1.0 simulated instruments), and RON. On this flight HANSEN had a discrepancy with his radio magnetic indicator and his canopy close circuit. Both of these discrepancies were repaired satisfactorily prior to his departure from Bryan. On 23, April 1958 the flight proceeded to Dannelly Field, ANG, Montgomery, Alabama (HANSEN 1.4 hours). A tire change was required on HANSEN's aircraft because it was worn excessively. HANSEN had remarked to (b) (6) at Bryan AFB that one of his aircraft's tires was bald. There was a considerable delay in changing this tire. The flight landed at Dannelly at 1215R and departed at 1730R for Port Columbus, Ohio. The flight landed at Columbus at 1917R and RON (HANSEN 1.8 hours, .2 actual instruments, .3 night visual). On 24 April the flight departed Columbus, Ohio at 0845R for Hancock AFB, Syracuse, New York, arriving at 0955R (HANSEN 1.2 hours). After dinner HANSEN and (b) (6) planned a flight to Cherry Point, refuel and fly a night log to MCAS, Miami, Florida. The flight departed Syracuse at 1530R for MCAS, Cherry Point with HANSEN leading. About ten minutes out (b) (6) a radio went out of commission and the flight returned to Hancock AFB for radio repairs (Flight time was .5 hours). (b) (6) radio could not be completely repaired. His transmitter was out of commission, however, he could receive. The flight again departed at 1922R with HANSEN leading on an IFR, VFR on top, flight plan direct Phillipsburg, direct Gordonsville, direct Cherry Point. The route and destination was forecast to be VFR. The flight could have been filed VFR, however, was filed IFR for the practice and experience. Enroute the weather was checked through "METRO" and found to be clear and eight miles visibility. The existing weather at Cherry Point at the time of the accident was clear and eight miles visibility with haze aloft. The flight cruised 42,000 feet. The flight before departure was rebriefed on night signals and that (b) (6) would assume the lead into Cherry Point. (b) (6) knew the area and pattern better than HANSEN and deemed it better procedure around the field to have the aircraft with the transmitter flying wing and second in the pattern to report position of the aircraft without transmitter to the tower. The flight proceeded without incident making several radio channel switches without difficulty. HANSEN started enroute VFR descent from 42,000 to 20,000 feet approaching New Bern. He called (b) (6) to check defrost "ON" to clear the windshield and canopy of condensation and fog. (b) (6) assumed HANSEN also turned his defroster on. HANSEN then passed the lead to (b) (6) as briefed. Just after the lead change speed brakes were dropped and HANSEN requested (b) (6) to turn his turtle back light off. After a brief interval HANSEN requested (b) (6) to return it to the "ON" position, with which (b) (6) complied. As Cherry Point could be seen from New Bern (b) (6) continued the descent in a left hand pattern around MCAS, Cherry Point. This pattern carried the flight to the West and South of the airfield. South of the field at about 8,000 feet HANSEN called the tower requesting the duty runway. Switch to tower frequency was made over New Bern.

"SPECIAL HANDLING REQUIRED IN ACCORDANCE
WITH PART VII OPNAV INSTRUCTION 3750.6B"

PART VII Cont'd

The transmission was, "Cherry Point tower request duty runway." or words to that effect. No identification was used by HANSEN. This transmission could not be heard over the tape recording. The tower called back in the blind that the service runway was two three and the altimeter setting. During the descent around the field [REDACTED] observed HANSEN flying a loose right wing position, however, was unconcerned as he assumed HANSEN had moved out to orient himself, the landing runway and the field; [REDACTED] continued descending varying his heading to come over Minnesott Beach, the recognized initial point for runway 23. Near Minnesott Beach he ascertained that he was at too high an altitude to execute a proper entry. The flight was now at about 3,000 feet. [REDACTED] decided at this point to continue straight ahead, generally on a NNW heading, for about 15 seconds then make a 270 degree turn to the right to again approach Minnesott Beach at the correct altitude of 1500 feet for the initial over runway 23. [REDACTED] did not observe HANSEN after starting the right hand 270 degree turn however assumed he would rejoin after leveling out on initial. [REDACTED] reported the angle of bank at no time exceeded 35 degrees. The entire flight from New Bern into landing was flown with speed brakes out. [REDACTED] had his navigation and runway lights on steady dim and HANSEN on steady bright. [REDACTED] again flew over Minnesott Beach, continued inbound on initial for approximately one third of the way into the runway. When he did not observe HANSEN on his wing he decided to make a 360 degree right turn to permit HANSEN to join up for the initial and the break for landing. When HANSEN did not join up [REDACTED] landed and assumed HANSEN would do the same. [REDACTED] fuel indicated 1800# and it is assumed HANSEN's fuel was approximately the same. [REDACTED] reported visibility was sufficient to position his aircraft over Minnesott Beach by visual reference to the ground.

Investigation of the yellow sheets prior to this cross country flight indicated no major discrepancies to possibly indicate any major malfunction. The discrepancies on the cross country flight on HANSEN's aircraft were obtained from testimony from [REDACTED]. The yellow sheets concerning the cross country flight were not recovered.

Witnesses from the tower, flight line and the Minnesott Beach area were interviewed relative to the description of the flight path and the maneuver involved prior to the crash.

Cpl. [REDACTED], working the local traffic position in the control tower at Cherry Point, observed what appeared to be two aircraft approaching runway 23 on initial (See Enclosure (2-3)). She estimated these aircraft to be 5-6 miles out. This would place the aircraft at or near Minnesott Beach. She had another aircraft EC-15, an F3D-2 with Captain [REDACTED] as pilot, over the runway for break. She advised EC-15 of the approaching lights. EC-15 after break reported visual contact with these lights. [REDACTED] did not have radio contact with these approaching lights presumed to be aircraft. 12

At approximately 2102 she observed one of the red lights, believed to be an aircraft, to make a sudden downward plunge and disappear. She reports a magnetic bearing of about 060° to the right (from her position in the tower) of runway 23. Cpl. [REDACTED] (See Enclosure (2-4)), also in the tower,

PART VII Cont'd

observed basically the same as Cpl. (b) (6). (b) (6) reported observing one of two lights, assumed to be aircraft, falling very rapidly in a downward course. He observed the aircraft to continue to burn the red light in its downward flight. He saw neither explosions nor flames. (b) (6) observed the downward plunge with field glasses. SSGT (b) (6) the crew supervisor in the tower (See Enclosure (2-5)) reported observing a single red object in a downward dive to the right and what appeared to be between 3 and 5 miles from the approach end of runway 23. (b) (6) broadcasted to the aircraft in the area to investigate a possible crash in the Neuse River area. The crash circuit was activated at approximately 2102.

Captain (b) (6), pilot of EC-15, F3D-2 (See Enclosure (2-1)) reports approaching runway 23 on initial. He was cautioned by the tower of two aircraft approaching behind him. (b) (6) broke over the numbers on runway 23 and in the left bank tried to spot the two aircraft. He reported observing the two aircraft and estimated them to be 4-5 miles from his position.

(b) (6) continued to observe the aircraft lights as he approached his 180 degree position. Just prior to his 180 degree position (b) (6) reports one of the sets of lights descended very rapidly toward the deck. From (b) (6) position in the pattern the rapid descent was thirty degrees to the left of his heading of approximately 050 degrees. He reports the light disappeared at deck level and a slight red glow was visible for a second or two then vanished. (b) (6) took a wave-off and investigated the area with negative results.

P.F.C. (b) (6) Mobile Control Tower Operator (See Enclosure (2-2)) reported noticing two jet aircraft passing overhead in a Northeast direction. Both aircraft were operating with lights on, whether the lights were red or green he could not ascertain. He reported the aircraft commencing a right turn near the Minnesota Beach area. He reported the lights turned to red at time of turn and then came toward runway 23 as though they were entering the five mile initial for landing. As the aircraft were approaching the Mobile Control Tower position, which is situated on the North side of runway 23, (b) (6) reports one of the lights dropped at a rapid rate of speed. He followed it down with binoculars. He looked for the other aircraft, however, could not find it. (b) (6) reports no explosion. The Officer 1st Lt (b) (6) located in the Mobile Control Tower was unavailable for interrogation because of T.D. However, Captain (b) (6) stated that he had nothing significant to add to (b) (6) statement.

Cpl. (b) (6) (See Enclosure (2-6)), P.F.C. (b) (6) (See Enclosure (2-7)) and P.F.C. (b) (6) (See Enclosure (2-8)) all report basically the same. While waiting for cross country aircraft from their Squadron, VMFT(AW) 20, from a position about 1000 feet northwest of the tower, they report seeing two red lights presumed to be aircraft approaching runway 23. They estimated the aircraft's position about 6-8 miles off the end of the runway. Suddenly one of the lights seemed to linger, stall or pitch up and enter a spin, descend very rapidly and hit the deck. All of them reported seeing a bright glow in the sky which then disappeared.

PART VII Cont'd

They all report observing the other aircraft proceeding about 30 seconds then entering a right turn. Upon further individual interrogation, there were definite differences as to headings of the aircraft and the number of times the red light disappeared and appeared to indicate the number of turns of the spin. One person reported four times, another 4-8 times, then "I don't know" and the third person did not know how many times.

The Board interviewed persons in the Minnesota Beach area (See Enclosure 2-10). Persons in this area are accustomed to hearing jets operating in their vicinity. Testimony obtained from witnesses in this area indicates an explosion about 2100 in the vicinity of the Neuse River area. However, no one reported observing a flash or fire. The detonation or explosion was of such intensity to cause three persons, Mrs. (b) (6) Mr. (b) (6) and Mr. (b) (6) to stop what they were doing and investigate the cause.

The Board contacted persons in the Married Officers Quarters of Cherry Point which is located about four miles SW from the supposed location of the impact point and no one had observed a flash, detonation or explosion.

Naval Personnel living in the best house area, about two and one half miles from the supposed location of the impact point, were also contacted. No one observed a flash, however, one person heard a clap of thunder at about 2100. This thunder was of such intensity that he requested several persons to check the tie downs of the boats. No thunder clouds were in the immediate vicinity of Cherry Point.

The Board noted that from the tower, mobile tower control and from the VMFT(AW) 20 line that the Neuse River is not visible from these positions. A peninsula with pine trees approximately thirty to fifty feet tall block vision from these positions to the river. This point is relevant to persons reporting the falling aircraft disappearing and in some cases no detonation or impact flash.

BuNo 135866, (b) (6) aircraft, was checked and it was found that all the aircraft lights were in operating order. (b) (6) also added that HANSEN's aircraft lights were all in operation. (b) (6) aircraft exhibited no damage indicative of a possible midair collision.

To aid in exploring the effects resulting from the untimely inflation of the life raft, the Board set up an experiment simulating actual conditions as closely as possible, with hydraulic power supplied to the controls. When the raft was inflated it tore the container and burgeoned out around the port side of the center restraining strap. To this particular raft did not inflate fully, it rose somewhat above the canopy rail, and displaced the control stick forward, and almost fully to the right.

It would not be possible to control the aircraft under the conditions produced by this experiment.

SPECIAL HANDLING REQUIRED IN ACCORDANCE
WITH PART VII OPNAV INSTRUCTION 3750.6B

SEARCH PROCEDURES AND RESULTS

The search commenced at approximately 2102 24 April 1958 (See Enclosure (2-9)) and continued for six days. The search was concentrated in the Neuse River area at the point where witnesses observed the aircraft dive for the deck and continued outward a radius of five to ten miles from this point. The search included the use of aircraft, helicopters, aircraft equipped with MAD gear, crash boats, grappling the entire Neuse River to a radius of three miles from the reported impact point, and foot patrols of the southern beach areas. Local fishermen, utilizing drag seines, also assisted the search.

EC-15, the F3D immediately flew over to the area where he saw the lights go down, but found nothing. The station SAR helicopter and other aircraft in the local area also had negative results. The Cherry Point Crash Boats had been alerted at the same time and proceeded to search the area. The U.S. Forestry Service, the New Bern Sheriff's Office, and Norfolk Search were all notified (See Enclosure (2-9)). The North Carolina State Highway Patrol called to say that people in the Minnesott Beach Area had heard an explosion (See Enclosure (2-10)). A UF from Elizabeth City and a 56' crash boat from New Bern were dispatched to the area by Norfolk Search. The next morning at 0600 four helicopters from MCAS, New River joined the search. The south bank of the Neuse River was searched thoroughly on foot. Two S2F aircraft equipped with Magnetic Airborne Detection Gear joined the search on Tuesday, 29 April. The search was secured at 1500 30 April 1958. The results of six days searching are depicted on enclosure (3-2), and were as follows.

At 2300 on the night of the crash a station crash boat located part of a flight suit pocket (See Location #1) with the following inside of it:

- a. VMF-251 aircraft check off procedures folder.
- b. 2 High Altitude Facility Charts.
- c. Supplement to High Altitude Facility Chart.
- d. Radio Facilities Chart (Sheets 10 and 11)
- e. 1 Gunsight check card produced by VMF-251.

(NOTE: HANSEN was attached to VMF-251 prior to H&MS-31)

At 0200 25 April 1958 a station crash boat located a Jet West Letdown Handbook intact except for the leather cover which was missing. (See Location # 2). This gear was probably located in the Flight Packet in the cockpit at the time of the crash. This Handbook was positively identified by the change sheet as H&MS-31 property.

At 0700 the same day, the cross country gas chit packet was found intact, complete with gas chits and various instructions. (See Location # 3).

"SPECIAL HANDLING REQUIRED IN ACCORDANCE
WITH PART VII ORNAV INSTRUCTION 3750.6B"

SEARCH PROCEDURES AND RESULTS Cont'd

The following was printed on the outside, "FJ, H&MS-31, DV-8." HANSEN and (b) (6) signature were found on several used gas cans. This pocket was discovered by the station SAR helicopter.

At 0800 a MAG-26 helicopter discovered parts of human remains, a facilities chart, and a few letdown plates for the Jet East Handbook. (See Location # 4).

At 1100 the same helicopter located the below listed items at Location # 5:

- a. More Jet East Letdown Plates. (Normally carried in cockpit)
- b. FJ-3 Handbook. (Cockpit)
- c. Pieces of earphones from an APH-5 hardhat.
- d. Part of a civilian coat with the name E. HANSEN inked on it. (Cleaners marking) (Nose Radar Compartment)
- e. Pages of an FJ-3 Erection and Maintenance Manual. (Ammo cans)

At 1200, Saturday 26 April a person searching on foot located a part of an FJ-3 main cell float valve at Location # 6.

A MAG-26 helicopter discovered parts of human remains in a fishing net at 1400 at Location # 7.

Members of the Board searching on foot with two HMR-262 pilots discovered parts of an FJ-3 left leading edge float valve at 1500 on Sunday 27 April at Location # 8.

At 1530 the Board also found a piece of a Mae West "signal" pocket and the lower portion of a trouser leg to a civilian pair of trousers. (See Location # 9). This last item would have been stored in the nose radar compartment at the time of the crash.

At 1600 on the 27th civilians at Location # 10 signaled down a helicopter. They gave the crew chief an FJ-3 ejection seat headrest pad. Because of the buoyancy of this pad it is presumed to have floated or washed ashore.

Two S2F's from VS-30 equipped with Magnetic Airborne Detection Gear searched the water area depicted on the Wreckage Diagram Tuesday afternoon for 3 hours and Wednesday afternoon for the same length of time. Three contacts were made in the area half way between Location # 1 and Minnesota Beach. Station Crash Boats grappled and dredged this area continuously with negative results.

Crab fishermen who fish intensively in the Neuse River were contacted by the Board on Sunday 27 April 1958. These fishermen drag nets, some as large as 70' across, along the bottom of the river in their work. These people were advised of the suspected crash area, and asked to notify the

SEARCH PROCEDURES AND RESULTS Cont'd

Cherry Point Crash Boats should they happen to snag on or recover any aircraft parts. The next day the Station Crash Boat Officer reported 27 fishing boats were working the suspected crash area, but no reports were received.

Through contacts with persons experienced with tides, currents and the wind effects of the Neuse River Area, the Board ascertained that the direction of floating objects would be controlled by the winds on the water as there is relatively no tide or current in the river. The winds at the time of the accident at MCAS, Cherry Point were south 4 knots, however Naval Boat house personnel report a NW wind on the river. On 25 April the wind was NE 10-18 knots and continued from a northerly direction throughout the search.

PART VIII THE ANALYSIS

Investigation of the cause of this accident, one that would cause an aircraft in formation to suddenly dive into the deck, was based solely on witnesses statements and the meager remains of the aircraft that were recovered.

The Board believes that the fact that this flight was planned and executed with one of the aircraft without transmitter is not a contributing factor to the cause of the accident. Although it is certainly not the safest or soundest procedure to operate in that manner, it is believed that it did not tax HANSEN, the lead pilot, to a point to cause the accident. The Board asked (b) (6) if he had had a transmitter would he have kept HANSEN informed of his intentions to make the right 270 degree turn over the Minnesota area. (Similar to night fighters calling turns when in formation) (b) (6) stated that he would not have called the turn.

The point that all witnesses observed two red lights and no green or white lights is unexplained as all persons from the Tower, Mobile Tower Control, and VMFT(AW) 20 from their position should have seen the green starboard lights. A possible explanation is that the flight, on the 270 degree turn, overshot the wind line and were executing a slight left turn into the initial, or with haze aloft that a red light is more visible at a greater distance than a green or white light. The witnesses statements pertaining to a large red light is possibly explained by the fact that these aircraft were operating with lights on steady rather than flashing. Most Cherry Point aircraft operate in the flashing position. Another fact that was established is that there are approximately fifteen FJ type aircraft operating from Cherry Point. The witnesses are not as familiar with FJ operating at night as with some of the other models relative to position of and familiarity with running lights. FJ-3 running lights (the red and green lights) do not flash, only the white lights flash when that position is set in the cockpit.

Through further interrogation, all of the witnesses stated that the red lights they observed were not similar to an aircraft on fire.

17
SPECIAL HANDLING REQUIRED IN ACCORDANCE
WITH PART VII OPNAV INSTRUCTION 3750.6B

PART VIII THE ANALYSIS Cont'd

The Board believes that vertigo could possibly be the cause of this accident. The left turn, held for almost 360 degrees in the letdown, level flight for approximately fifteen seconds, then a right 270° turn, which HANSEN probably had not anticipated, into a known dark area, (vicinity of Minnesota Beach) are definite prerequisites for vertigo or disorientation. However, the Board concluded that had HANSEN encountered vertigo he would not have been in position on (b)(6) right wing approaching for initial as all witnesses report. Also as the bank was leveled off initial, lights from MC.S. Cherry Point would be visible for reorientation. The Board believes that had a 360° turn around the lighted airfield to lose altitude been used, in lieu of the right 270° turn, it would have lessened the possibilities of vertigo. The Board also believes that a person suffering from vertigo would be concerned with control of the aircraft and would not make a radio transmission of his difficulty. No emergency transmissions were made.

The Board investigated possible mechanical malfunction, similar to flame-out, flight control failure, and trim tab malfunction. The Board believes that if mechanical malfunction had been the cause HANSEN would probably have reported the malfunction over the radio. Most pilots manage, even if ditching immediately, to make known their difficulty. Relative to flame-out, the Board believes that had flame-out occurred the aircraft would not have made such violent nose over and dive. HANSEN would have probably reported a flame out and from the observed position of difficulty would have glided straight in toward RW 23.

Had a primary flight control failure occurred the alternate flight control system would have automatically switched over. This switch over is checked each flight prior to take off. Had both systems failed, the controls normally lock in the position they were last in, in this case, straight and level. If the elevator trim control had failed and moved to full nose down position, it is concluded that the pilot could have, without too much difficulty, overcome the trim change. An FJ-4B with the stick trimmed full forward can be returned to the neutral position with a 37 pound pull force, and a 24 pound push force if the trim is full aft. (See May 1958 issue of Approach, page 8) FJ-4B and FJ-3 have relatively the same flight control system.

The Board probed the possibility that HANSEN had lagged excessively behind the leader and in the process of joining up in the right 270° turn, over shot, pulled the throttle off, attempted to remain on the inside of the turn, stalled and spun. The Board believes this might have caused the accident if the over shoot had occurred in the turn as described above, however, witnesses place the two aircraft in formation, more or less straight and level, approaching the break. It is highly unlikely that in this flight attitude HANSEN over shot (b)(6) reduced throttle, and decreased airspeed sufficiently to stall and spin.

The Board investigated the possibility of the PK-2 life raft being activated in flight. All pilots carry a personal knife, and a short pointed piece of metal is safetyed in the cockpit to take care of this eventuality. From an altitude of 1500 feet, and at night, this is certainly a possible

PART VIII THE ANALYSIS Cont'd

potential cause factor in this accident. It is conceivable that if the action of the activated raft was instantaneous, that it could render the pilot incapable of transmitting on the radio, and immediately force the control stick forward, either left or right. Lateral displacement would depend upon how the raft left the container.

Hypoxia is a possible cause factor, however, considered highly unlikely as HANSEN, just prior to the accident, did not exhibit any symptoms. HANSEN's reminding (b) (6) about turning the defrost "ON" to eliminate fogging and condensation on let down, the change of lead, and the request for duty runway, is not indicative of a person suffering from hypoxia. HANSEN's not using the bureau number on his initial call to the tower is undoubtedly a carry over from his operations at MCAS, Miami. At Miami, it is SOP for local flights to call, "MARINE MIAMI LANDING FJ," without the bureau or mode number, on the initial call to the tower to establish the landing runway for approach planning with a flight of aircraft. His not calling on initial is unexplained.

There is no evidence to support a physical malady as a cause of this accident (hyperventilation, heart attack, etc.) however, these cannot be overlooked as possibilities.

No comment is made on the safety equipment as its use or non-use is undetermined.

Operational flight trainer for FJ-3 is not available at MCAS, Miami. To the knowledge of this Board an FJ-3 OFT was never manufactured.

PART IX CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions.

The Board concluded that the primary cause of this accident is undetermined. The most probable causes are listed:

1. Mechanical malfunction of the aircraft including accidental activation of the PK-2 life raft.
2. Vertigo.
3. Stall spin.
4. Sudden physiological disorder.

B. Recommendations.

1. That all pilots concern themselves, on a recurring basis, with the causes and effects of vertigo, and the methods, personal and general, which tend to keep them to a minimum.
2. That pilots constantly review emergency and ejection procedures,

PART IX CONCLUSIONS AND RECOMMENDATIONS Cont'd

- including relieving the pressure of an activated life raft, and that in so doing, consideration be given to the additional problems posed during hours of darkness.
3. That all pilots be thoroughly conversant with the flight conditions likely to produce stall, both high and low speed.
4. That the Naval Aviation Safety Center promulgate information regarding the capabilities, limitations, and availability, of various pieces of equipment organic to the Naval Service, which may assist AM investigators locate lost or underwater wreckage.

20

"SPECIAL HANDLING REQUIRED IN ACCORDANCE
WITH PART VII OF NAV INSTRUCTION 3/50.6B"

(b) (5), (b) (6)

(b) (5), (b) (6)

(b) (5), (b) (6)

(b) (5), (b) (6)

(b) (5), (b) (6)

(b) (5), (b) (6)

(b) (5), (b) (6)

GENERAL INSTRUCTIONS

1. This report shall be filed in the event of an aircraft accident/incident which involves one or more of the following:
 Death Ditching
 Injury Water Crash
 Bail-out or Ejection (attempted or successful) Whenever physiological or psychological factors are involved
 Aircraft Ground Accidents resulting in serious injury
 2. Completion of the form shall be the responsibility of the flight surgeon
 3. For type accident and damage code refer to OPNAV INSTRUCTION 3750.6A
 4. This form shall be prepared in quadruplicate. One copy shall be turned over to the Aircraft Accident Board (or the Survival and

Intelligence Officer in the case of combat incidents), and the original shall be air mailed (regular mail within 250 miles of Washington, D.C.) direct to Chief of Naval Operations (OP-57) Navy Department, Washington 25, D.C. within 4 working days following the accident. The third copy shall be mailed direct to Safety Equipment Branch, BUAEW, Navy Department, Washington 25, D.C. The fourth copy shall be forwarded direct via air mail (regular mail within 250 miles of Norfolk, Va.) to the U.S. Naval Aviation Safety Activity, Naval Air Station, Norfolk 31, Virginia. Where more than one aircraft is involved, separate forms must be completed for each aircraft wherein one or more of the requirements in paragraph 1. above are applicable. (Additional copies may be prepared for use of squadron flight surgeons and other interested individuals.)

1. FROM (Ship or station address) MCAS, Miami, Florida	2. SERIAL NO. 5-58	3. ACCIDENT OCCURRED (Geographic location) Houze River, MCAS, Cherry Pt.	4. TIME (Local) 2105	5. DATE 4-21-58
6. PLANE COVERED BY THIS REPORT FJ-3	7. OTHER PLANE (if involved) MODEL	8. BU. NO. 135907	9. NO. OCCUPANTS One	10. UNIT OPERATING AIRCRAFT HNS 31, MCAS, Miami, Fla.
11. TYPE ACCIDENT B-5	12. DAMAGE A			

9. NAME OF PILOT IN CONTROL OF AIRCRAFT AT TIME OF ACCIDENT/INCIDENT (Last, first, middle)
HANSEN, Billy Marinus

13. UNIT PILOT ATTACHED TO
HNS 31, MCAS, Miami, Fla.

14. FLIGHT SURGEONS CHECK LIST <input checked="" type="checkbox"/> ALL PARTS OF FORM COMPLETED <input type="checkbox"/> SURVIVORS NARRATIVES <input type="checkbox"/> PHOTOS AS NEEDED <input type="checkbox"/> RECOMMENDATIONS <input checked="" type="checkbox"/> COPIES FURNISHED	15. DATE 5-2-58
(b) (6) LT R MC USAF	16. DATE 5-2-58
(b) (6) LICOL R USA COMMANDING	

17. AIRCRAFT ACCIDENT AIRCRAFT INCIDENT COMBAT INCIDENT GROUND ACCIDENT

18. ACCIDENT DESCRIPTION.

INCLUDE HERE A PARAGRAPH GIVING A BRIEF BUT FACTUAL ACCOUNT DESCRIBING THE ACCIDENT/INCIDENT. INCLUDE SUCH CAUSES AS KNOWN, ESTIMATES OF "G" FORCES, ANGLES OF IMPACT, SPEED OF IMPACT, ATTITUDE ON IMPACT, ETC. ATTACH PHOTOGRAPHS WHEN PERTINENT.

See attached sheets.

33

19. PILOT FACTORS (Check pertinent pilot factors listed below):

	PILOT	CO-PILOT		PILOT	CO-PILOT
IN CONTROL AT TIME OF ACCIDENT/INCIDENT	<input checked="" type="checkbox"/>		HYPOXIA SUSPECTED		
AMOUNT OF FLIGHT TIME IN LAST 24 HOURS	3.3		CARBON MONOXIDE POISONING SUSPECTED		
NUMBER OF FLIGHTS IN LAST 24 HOURS	2		FAULTY VISION		
NUMBER HOURS DUTY IN LAST 24 HOURS	0		AERODEMBOLISM		
HOURS SINCE LAST FULL MEAL	8		BLACKOUT, GREYOUT, REDOUT		
TIME AT CONTROLS THIS FLIGHT	1.7		VERTIGO	<input checked="" type="checkbox"/>	
TOTAL FLIGHT TIME	515.6		NIGHT BLINDNESS		
TOTAL FLIGHT TIME IN MODEL	160		FATIGUE		
NUMBER PREVIOUS ACCIDENTS	0		DOMESTIC DIFFICULTIES		
DATE OF LAST ACCIDENT	--		UNFAMILIARITY IN TYPE AIRCRAFT		
NUMBER DAYS GROUNDED IN LAST MONTH	0		ANXIETY REACTION		
DATE LAST LOW PRESSURE INDOCTRINATION	11-27-57		LAST CER (date and score)	11-6-57	11
AMOUNT SLEEP IN LAST 24 HOURS	8		OTHER PERTINENT FACTORS IN ACCIDENT (describe below)		

20. COMMENTS ON ITEMS CHECKED UNDER ITEM 19 WHICH ARE PERTINENT TO ACCIDENT/INCIDENT. WHERE APPLICABLE, COMMENT BELOW ON ANY OF THE ABOVE FACTORS AFFECTING CREW MEMBERS OR PASSENGERS.

The cause of the accident is undetermined. A left turn, followed by a right turn, on a dark night, at a strange airfield is a good set of circumstances for vertigo. However, the pilot apparently negotiated the turns and was straight and level and in sight of the field at the time of the fatal plunge. This would make disorientation unlikely. It had been eight hours since the pilot's last meal, but it is unknown if this had any bearing on the accident. No other physical or psychological factors have been established.

HAMS 31
UNIT DATE ACCIDENT 4-24-58
MODEL RJ-3
BU. NO. 135907

DITCHING AND WATER CRASH REPORT

1. CONTROLLED DITCHING

2. WATER CRASH

3. WEATHER SEA SLIGHT MODERATE ROUGH WIND VELOCITY (Knots) (air temp. °F) (Water temp. °F)

4. PROCEDURES

CANOPY	<input type="checkbox"/> JETTISONED	POWER	<input type="checkbox"/> ON	<input type="checkbox"/> OFF	DITCHED	<input type="checkbox"/> INTO WIND
	<input type="checkbox"/> OPEN		<input type="checkbox"/> UP	<input type="checkbox"/> DOWN		<input type="checkbox"/> DOWN WIND
	<input type="checkbox"/> CLOSED		<input type="checkbox"/> UP	<input type="checkbox"/> PARTIAL		<input type="checkbox"/> CROSS WIND

5. IMPACT (Estimated)

ATTITUDE	ANGLE	SPEED (Knots indicated)	STOPPING DISTANCE (ft.)	NO. OF IMPACTS	TIME A/C FLOATED (S)
Unknown	Unknown	unknown	unknown	unknown	unknown

6. EXIT

	NAME	BILLET	UNDERWATER	PLACE OF EXIT	DIFFICULTIES
A.		PILOT			Denote below under A, B, C, and D
B.					
C.					
D.					

A	35
B	
C	
D	

7. SURVIVAL EQUIPMENT

SHOES		GLOVES		LIFE VEST		EXPOSURE SUIT		RAFT		USED TO ATTRACT ATTENTION					
TYPE	DAMAGED	TYPE	DAMAGED	TYPE	DAMAGED	TYPE	DAMAGED	TYPE	DAMAGED	DYE	FLARES	FLASHLIGHT	MIRROR	GUN	RADIO
A															
B															
C															
D															

8. LIST CAUSE OF DAMAGE, IF ANY, TO SURVIVAL EQUIPMENT (include photo of damage) (use additional sheet, if necessary)

9. LIST ANY DIFFICULTIES OR FAILURES IN USE OF SURVIVAL GEAR (use additional sheet, if necessary)

10. TIME IN RAFT	TIME IN WATER	METHOD OF RESCUE
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11. LIST EQUIPMENT DROPPED TO SURVIVORS; STATE IF USED EFFECTIVELY (use additional sheet, if necessary)

12. LIFT ALL ITEMS IN SURVIVAL KIT WHICH WERE USED - EFFECTIVENESS (List those needed items which failed or were lost - recommendations) (use additional sheet, if necessary)



WITH PART VII OPNAV INSTRUCTION 3730.5B

ASSUMED FLIGHT PATH
ENCLOSURE (3-1) to
H&S-31 AAR 1-58

WRECKAGE DIAGRAM

Legend: The dot or circle nearest the number indicates exact location of item or items found.

SCALE: 1" - Approx 1 $\frac{1}{4}$ miles

1. 2300 - 24 April 1958
Knee pocket w/maps,
Hi Alt RadFacs, VMF-251 check list
2. 0200 - 25 April 1958
Jet West letdown handbook
3. 0700 - 25 April 1958
HMS-31 cross country packet
4. 0800 - 25 April 1958
Parts of human remains,
VOR RadFacs
5. 1100 - 25 April 1958
FJ-3 Handbook
Pieces of earphones
Part of civilian coat
6. 1200 - 26 April 1958
Part of an FJ-3 float valve
7. 1400 - 26 April 1958
Parts of human remains
8. 1500 - 27 April 1958
Part of an FJ-3 left landing
edge float valve
9. 1530 - 27 April 1958
Part of a Mae West signal pocket
10. Time unknown, FJ-3 headrest cushion



WITH PART VII OPNAV INSTRUCTION 3750.6B"